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EXAMINER	
HUYNH, KHOA B	

ART UNIT	PAPER NUMBER
2462	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/579,892	AHN ET AL.	
	Examiner	Art Unit	
	KHOA HUYNH	2462	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 September 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4 and 7-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4 and 7-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *05/29/2009*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This Office Action is in response to the Applicants' amendment received on 09/02/2009.

Claim Status

2. Claims 1-4, 7-10, 13-14 are amended.

3. Claims 5-6 are cancelled.

4. Claims 15-16 are newly added.

5. Claims 1-4, 7-16 are currently presenting for examination, with claims 1, 2, and 13 being independent.

6. This action has been made **NON-FINAL**.

Response to Arguments

7. Applicants' arguments filed 09/02/2009 have been fully considered but are moot in view of the new ground(s) of rejection.

8. On an update prior art search, the limitations previously deemed allowable are now rejected with new grounds of rejections using newly found art. As such, the office action is made non-final.

Claim Objections

9. Claim 8 is objected to because of the following informalities: the phrase "wherein subcarriers, which constitute the resource spaces and the resource subspaces are, are configured by..." is unclear. Possible typographical error with the multiple "are". Appropriate correction is required.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

11. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

12. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

13. **Claims 1-2, 7-8** are rejected under 35 U.S.C. 103(a) as being unpatentable over Nadgauda, US 6,011,800 in view of Tateson, US 6,539,228.

14. **For claim 1**. Nadgauda teaches: A method of partitioning resource spaces and assigning physical channels and power in an OFDMA (orthogonal frequency division multiple access)-based cellular system which comprises a plurality of base stations and a plurality of cells associated with the base stations (Nadgauda, column 3, lines 1-26, resource management techniques for use in various cellular system), said method comprising:

(a) partitioning a resource within each slot of the cellular system into resource spaces, in common adjacent cells of the cellular system (Nadgauda, fig 2, slot 250 is partitioned into resource spaces 252, 254; Nadgauda, column 4, lines 19-42, technique is performed on plurality of communication units in multiple cells/regions);

(b) further partitioning the partitioned resource spaces into resource sets according to respective sizes of physical channels in the adjacent cells (Nadgauda, fig 2, resource space 252 is partitioned into resource sets 268, 270, 272, 274, 276, 278;

Nadgauda, column 8, lines 7-36, resource sets are partitioned according to size of physical channels),

and (c) assigning the physical channels classified based on characteristics to the partitioned resource sets within the respective resource spaces (Nadgauda, fig 2, physical channel 217 is assigned to resource set 270 based on its size).

Nadgauda doesn't teach: wherein the resource sets within one resource space of one of the adjacent cells are arranged to be collided as uniformly as possible with all the resource sets within the same resource space of another adjacent cell;

Tateson from the same or similar fields of endeavor teaches: wherein the resource sets within one resource space of one of the adjacent cells are arranged to be collided as uniformly as possible with all the resource sets within the same resource space of another adjacent cell; (Tateson, column 6, lines 31-65, subspace approach allows fixed uniform demand with minimum interference, fig 2D, resource usage are arranged to be as uniformly as possible)

Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teachings of Tateson into Nadgauda, since Nadgauda suggests a technique for managing resource by assigning physical channels to resource spaces, and Tateson suggests the beneficial use of arranging such resource as uniformly as possible (Tateson, column 6, lines 31-65) to increase network efficiency in the analogous art of data transmission.

15. **For claim 2**. Nadgauda teaches: A method of partitioning resource spaces and assigning physical channels and power in an OFDMA (orthogonal frequency division multiple access)-based cellular system which comprises a plurality of base stations and a plurality of cells associated with the base stations (***Nadgauda, column 3, lines 1-26***, *resource management techniques for use in various cellular system*), said method comprising:

(a) partitioning a resource within each slot of the cellular system into resource spaces, in common in adjacent cells of the cellular system (***Nadgauda, fig 2***, *slot 250 is partitioned into resource spaces 252, 254;* ***Nadgauda, column 4, lines 19-42***, *technique is performed on plurality of communication units in multiple cells/regions*);

(b) further partitioning the partitioned resource spaces into resource subspaces, in common in the adjacent cells (***Nadgauda, fig 2***, *resource space 252 is partitioned into resource subspaces 256, 258;* ***Nadgauda, column 4, lines 19-42***, *technique is performed on plurality of communication units in multiple cells/regions*);

(c) further partitioning the partitioned resource spaces and the partitioned resource subspaces into resource sets according to respective sizes of physical channels in the adjacent cells (***Nadgauda, fig 2***, *resource subspace 256 is partitioned into resource sets 268, 270;* ***Nadgauda, column 8, lines 7-36***, *resource sets are partitioned according to size of physical channels*);

(d) assigning the physical channels classified based on characteristics to the partitioned resource sets within the respective resource spaces and the resource

subspaces (***Nadgauda, fig 2****, physical channel 217 is assigned to resource set 270 based on its size*).

Nadgauda doesn't teach: wherein the resource sets within one resource space or subspace of one of the adjacent cells are arranged to be collided as uniformly as possible with all the resource sets within the same resource space or subspace of another adjacent cell;

Tateson from the same or similar fields of endeavor teaches: wherein the resource sets within one resource space or subspace of one of the adjacent cells are arranged to be collided as uniformly as possible with all the resource sets within the same resource space or subspace of another adjacent cell (Tateson, column 6, lines 31-65, subspace approach allows fixed uniform demand with minimum interference, fig 2D, resource usage are arranged to be as uniformly as possible)

Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teachings of Tateson into Nadgauda, since Nadgauda suggests a technique for managing resource by assigning physical channels to resource spaces, and Tateson suggests the beneficial use of arranging such resource as uniformly as possible (Tateson, column 6, lines 31-65) to increase network efficiency in the analogous art of data transmission.

16. **For claim 7**. Nadgauda and Tateson disclose all the limitations of claim 1, and Nadgauda further teaches: wherein subcarriers which constitute the resource spaces (Nadgauda, fig 5, resource spaces 555 to 596 support carriers as shown in fig 3) are

configured by at least one subcarrier set which covers at least one wide frequency band and has a predetermined spacing.(Nadgauda, fig 5, management unit 520 and assignment unit 530 configured the subcarrier sets which cover one wide frequency band 542 and has predetermined spacing).

17. **For claim 8**. Nadgauda and Tateson disclose all the limitations of claim 2, and Nadgauda further teaches: wherein subcarriers, which constitute the resource spaces and the resource subspaces (Nadgauda, fig 5, resource spaces 555 to 596 support carriers as shown in fig 3) are, are configured by at least one subcarrier set which covers at least one wide frequency band and has a predetermined spacing (Nadgauda, fig 5, management unit 520 and assignment unit 530 configured the subcarrier sets which cover one wide frequency band 542 and has predetermined spacing).

18. **Claims 3-4** are rejected under 35 U.S.C. 103(a) as being unpatentable over Nadgauda, US 6,011,800 in view of Tateson, US 6,539,228 and further in view of Terry, US 2001/0043576.

19. **For claim 3**. Nadgauda and Tateson disclose all the limitations of claim 1, however Nadgauda and Tateson fail to teach: wherein the physical channels comprise one or more of common channels, dedicated control channels, shared control channels, dedicated traffic channels, and shared traffic channels and are allocated to at least one of the resource spaces of each cell.

Terry from the same or similar fields of endeavor teaches: wherein the physical channels comprise one or more of common channels, dedicated control channels, shared control channels, dedicated traffic channels, and shared traffic channels and are allocated to at least one of the resource spaces of each cell. (Terry, fig 2, common channels, dedicated control channels, shared control channels, dedicated traffic channels, shared traffic channels are allocated to resource space channel 56)

Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teachings of Terry into Nadgauda and Tateson, since Nadgauda suggests a technique for managing resource by assigning physical channels to resource spaces, and Terry suggests the beneficial use of assigning multiple logical channels to such physical channel since it is common practice in the art to associate physical channel/resource with logical channels of different types to better manage data (Terry, page 2, paragraph 16) in the analogous art of data transmission.

20. **For claim 4**. Nadgauda and Tateson disclose all the limitations of claim 2, however Nadgauda and Tateson fail to teach: wherein the physical channels comprise one or more of common channels, dedicated control channels, and shared control channels; and said (b) comprises partitioning each resource space: through which the common channels, the dedicated control channels, and the shared control channels of each cell are transmitted, into the respective resource subspaces so that the channels with similar physical channel characteristics may be transmitted in a single one among the subspaces.

Terry from the same or similar fields of endeavor teaches: wherein the physical channels comprise one or more of common channels, dedicated control channels, and shared control channels (Terry, fig 2, common channels, dedicated control channels, shared control channels, dedicated traffic channels, shared traffic channels are allocated to resource space channel 56); and said (b) comprises partitioning each resource space: through which the common channels, the dedicated control channels, and the shared control channels of each cell are transmitted, into the respective resource subspaces so that the channels with similar physical channel characteristics may be transmitted in a single one among the subspaces (Terry, fig 2, common channels, dedicated control channels, shared control channels, dedicated traffic channels, shared traffic channels are allocated to resource space channel 56 based on similar characteristics).

Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teachings of Terry into Nadgauda and Tateson, since Nadgauda suggests a technique for managing resource by assigning physical channels to resource spaces, and Terry suggests the beneficial use of assigning multiple logical channels to such physical channel since it is common practice in the art to associate physical channel/resource with logical channels of different types to better manage data (Terry, page 2, paragraph 16) in the analogous art of data transmission.

21. **Claims 9-10** are rejected under 35 U.S.C. 103(a) as being unpatentable over Nadgauda, US 6,011,800 in view of Tateson, US 6,539,228 and further in view of Sawyer, US 5,634,195.

22. **For claim 9**. Nadgauda and Tateson disclose all the limitations of claim 1, however Nadgauda and Tateson fail to teach: allocating a transmit power of the resource space to a physical channel which among the physical channels assigned to the resource set, uses a fixed transmit power; and allocating a power within the maximum transmit power of the resource space to a physical channel which among the physical channels assigned to the resource set, uses a variable transmit power.

Sawyer from the same or similar fields of endeavor teaches: allocating a transmit power of the resource space to a physical channel which among the physical channels assigned to the resource set, uses a fixed transmit power (Sawyer, column 12, lines 15-22, fixed output/transmit power is allocated to fixed radio channels); and allocating a power within the maximum transmit power of the resource space to a physical channel which among the physical channels assigned to the resource set, uses a variable transmit power (Sawyer, column 12, lines 22-44, output/transmit power not exceed base maximum power level is allocated to variable power radio channels)

Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teachings of Sawyer into Nadgauda and Tateson, since Nadgauda suggests a technique for managing resource by assigning physical channels to resource spaces, and Sawyer suggests the beneficial use of allocating fixed

and variable power to optimize the power levels needed for good quality transmission and reception (Sawyer, column 1, lines 55-64) in the analogous art of data transmission.

23. **For claim 10**. Nadgauda and Tateson disclose all the limitations of claim 2, however Nadgauda and Tateson fail to teach: allocating a transmit power of the resource subspace to a physical channel which, among the physical channels assigned to the resource set, uses a fixed transmit power; and allocating a power within the maximum transmit power of the resource subspace to a physical channel which, among the physical channels assigned to the resource set, uses a variable transmit power.

Sawyer from the same or similar fields of endeavor teaches: allocating a transmit power of the resource subspace to a physical channel which, among the physical channels assigned to the resource set, uses a fixed transmit power (Sawyer, column 12, lines 15-22, fixed output/transmit power is allocated to fixed radio channels);

and allocating a power within the maximum transmit power of the resource subspace to a physical channel which, among the physical channels assigned to the resource set, uses a variable transmit power. (Sawyer, column 12, lines 22-44, output/transmit power not exceed base maximum power level is allocated to variable power radio channels).

Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teachings of Sawyer into Nadgauda and Tateson, since Nadgauda suggests a technique for managing resource by assigning physical channels to resource spaces, and Sawyer suggests the beneficial use of allocating fixed

and variable power to optimize the power levels needed for good quality transmission and reception (Sawyer, column 1, lines 55-64) in the analogous art of data transmission.

24. **Claims 11-12** are rejected under 35 U.S.C. 103(a) as being unpatentable over Nadgauda, US 6,011,800 in view of Tateson, US 6,539,228 and Sawyer, US 5,634,195, and further in view of Jacobsen, US 2005/0068916.

25. **For claim 11**. Nadgauda, Tateson and Sawyer disclose all the limitations of claim 9, however Nadgauda, Tateson, and Sawyer fail to teach: wherein the transmit power is allocated by considering cell sizes, interference of adjacent cells, and a required SNR (signal to noise ratio).

Jacobsen from the same or similar fields of endeavor teaches: wherein the transmit power is allocated by considering cell sizes, interference of adjacent cells, and a required SNR (signal to noise ratio). (Jacobsen, page 1, paragraph 12, transmit power is allocated based on cell sizes, interference, and SNR).

Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teachings of Jacobsen into Nadgauda, Tateson, and Sawyer, since Sawyer suggests a technique for allocating power to channels, and Jacobsen suggests the beneficial use of considering cell sizes, interference, and SNR when performing such allocation to reduce interference and support small cell sizes (Jacobsen, page 1, paragraph 12) in the analogous art of data transmission.

26. **For claim 12**. Nadgauda, Tateson, and Sawyer disclose all the limitations of claim 9, however Nadgauda, Tateson, and Sawyer fail to teach: wherein the maximum transmit power is allocated by considering cell sizes, interference of adjacent cells, and a required SNR (signal to noise ratio).

Jacobsen from the same or similar fields of endeavor teaches: wherein the maximum transmit power is allocated by considering cell sizes, interference of adjacent cells, and a required SNR (signal to noise ratio). (Jacobsen, page 1, paragraph 12, transmit power is allocated based on cell sizes, interference, and SNR)

Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teachings of Jacobsen into Nadgauda, Tateson, and Sawyer, since Sawyer suggests a technique for allocating power to channels, and Jacobsen suggests the beneficial use of considering cell sizes, interference, and SNR when performing such allocation to reduce interference and support small cell sizes (Jacobsen, page 1, paragraph 12) in the analogous art of data transmission.

27. **Claim 13** is rejected under 35 U.S.C. 103(a) as being unpatentable over Nadgauda, US 6,011,800 in view of Sawyer, US 5,634,195, and Oprea, US 2004/0192218.

28. **For claim 13**. Nadgauda teaches: A method of partitioning resource spaces and assigning physical channels and power in an OFDMA (orthogonal frequency division multiple access)-based cellular system which comprises a plurality of base stations and

a plurality of cells associated with the base stations (Nadgauda, column 3, lines 1-26, resource management techniques for use in various cellular system), said method comprising:

(a) partitioning a resource within each slot of the cellular system into resource spaces, in common in adjacent cells of the cellular system (Nadgauda, fig 2, slot 250 is partitioned into resource spaces 252, 254; Nadgauda, column 4, lines 19-42, technique is performed on plurality of communication units in multiple cells/regions);

(b) further partitioning the partitioned resource spaces into resource subspaces, in common in the adjacent cells (Nadgauda, fig 2, resource space 252 is partitioned into resource subspaces 256, 258; Nadgauda, column 4, lines 19-42, technique is performed on plurality of communication units in multiple cells/regions);

(c) further partitioning the partitioned resource spaces and the partitioned resource subspaces into resource sets according to respective sizes of physical channels in the adjacent cells (Nadgauda, fig 2, resource subspace 256 is partitioned into resource sets 268, 270; Nadgauda, column 8, lines 7-36, resource sets are partitioned according to size of physical channels);

and (d) assigning the physical channels classified based on characteristics to the partitioned resource sets within the respective resource spaces and the resource subspaces (Nadgauda, fig 2, physical channel 217 is assigned to resource set 270 based on its size);

the method further comprising: partitioning the resource space, through which a traffic channel is transmitted, into resource subspaces by the number of adjacent cells

according to a cell arrangement; (Nadgauda, fig 2, resource space 252 is partitioned into resource subspaces 256, 258; Nadgauda, column 4, lines 19-42, technique is performed on plurality of communication units in multiple cells/regions)

Nadgauda doesn't teach: allocating a transmit power of the resource subspace to a physical channel which, among the physical channels assigned to the resource set, uses a fixed transmit power; allocating a power within the maximum transmit power of the resource subspace to a physical channel which, among the physical channels assigned to the resource set, uses a variable transmit power; and for each cell, allocating to a resource subspace a transmit power higher than that of the other resource subspace, wherein the resource subspace with the higher transmit power varies from one cell to another cell among the adjacent cells.

Sawyer from the same or similar fields of endeavor teaches: allocating a transmit power of the resource subspace to a physical channel which, among the physical channels assigned to the resource set, uses a fixed transmit power (Sawyer, column 12, lines 15-22, fixed output/transmit power is allocated to fixed radio channels); allocating a power within the maximum transmit power of the resource subspace to a physical channel which, among the physical channels assigned to the resource set, uses a variable transmit power; (Sawyer, column 12, lines 22-44, output/transmit power not exceed base maximum power level is allocated to variable power radio channels)

Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teachings of Sawyer into Nadgauda, since Nadgauda suggests a technique for managing resource by assigning physical channels

to resource spaces, and Sawyer suggests the beneficial use of allocating fixed and variable power to optimize the power levels needed for good quality transmission and reception (Sawyer, column 1, lines 55-64) in the analogous art of data transmission.

Nadgauda and Sawyer don't teach: and for each cell, allocating to a resource subspace a transmit power higher than that of the other resource subspace, wherein the resource subspace with the higher transmit power varies from one cell to another cell among the adjacent cells.

Oprea from the same or similar fields of endeavor teaches: and for each cell, allocating to a resource subspace a transmit power higher than that of the other resource subspace, wherein the resource subspace with the higher transmit power varies from one cell to another cell among the adjacent cells. (Oprea, page 10, paragraph 91, allocate higher power to strongest spatial subspace channels, varies from cell to cell because strongest spatial subspace channels are varied from cell to cell)

Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teachings of Oprea into Nadgauda and Sawyer, since Nadgauda suggests a technique for managing resource by assigning physical channels to resource spaces, and Oprea suggests the beneficial use of allocating higher power to strongest spatial subspaces (Oprea, page 10, paragraph 91) to efficiently manage transmission power in the analogous art of data transmission.

29. **Claim 14** is rejected under 35 U.S.C. 103(a) as being unpatentable over Nadgauda, US 6,011,800 in view of Sawyer, US 5,634,195, and Oprea, US 2004/0192218 and further in view of Benveniste, US 5,787,352.

30. **For claim 14**. Nadgauda, Sawyer and Oprea disclose all the limitations of claim 13, however Nadgauda, Sawyer, and Oprea don't teach: allowing a user, who needs a high transmit power in each cell, to use a traffic channel of the resource subspace with the higher transmit power.

Benveniste from the same or similar fields of endeavor teaches: allowing a user, who needs a high transmit power in each cell, to use a traffic channel of the resource subspace with the higher transmit power. (Benveniste, column 16, lines 3-11, high power user is allowed to use idle, low traffic channel with allowed high power).

Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teachings of Benveniste into Nadgauda, Sawyer, and Oprea, since Sawyer suggests a technique for allocating power to channels, and Benveniste suggests the beneficial use of allowing high power users to use low traffic channel to reduce the probability of adjacent-channel interference between neighbor cells (Benveniste, column 16, lines 10-11) in the analogous art of data transmission.

31. **Claim 15** is rejected under 35 U.S.C. 103(a) as being unpatentable over Nadgauda, US 6,011,800 in view of Tateson, US 6,539,228 and Sawyer, US 5,634,195 and further in view of Oprea, US 2004/0192218.

32. **For claim 15**. Nadgauda, Tateson, and Sawyer disclose all the limitations of claim 10, and Nadgauda further teaches: partitioning the resource space, through which a traffic channel is transmitted, into resource subspaces by the number of adjacent cells according to a cell arrangement (Nadgauda, fig 2, resource space 252 is partitioned into resource subspaces 256, 258; Nadgauda, column 4, lines 19-42, technique is performed on plurality of communication units in multiple cells/regions);

Nadgauda, Tateson, and Sawyer don't teach: for each cell, allocating to a resource subspace a transmit power higher than that of the other resource subspace, wherein the resource subspace with the higher transmit power varies from one cell to another cell among the adjacent cells.

Oprea from the same or similar fields of endeavor teaches: for each cell, allocating to a resource subspace a transmit power higher than that of the other resource subspace, wherein the resource subspace with the higher transmit power varies from one cell to another cell among the adjacent cells. (Oprea, page 10, paragraph 91, allocate higher power to strongest spatial subspace channels, varies from cell to cell because strongest spatial subspace channels are varied from cell to cell)

Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teachings of Oprea into Nadgauda, Tateson and Sawyer, since Nadgauda suggests a technique for managing resource by assigning physical channels to resource spaces, and Oprea suggests the beneficial use of

allocating higher power to strongest spatial subspaces (Oprea, page 10, paragraph 91) to efficiently manage transmission power in the analogous art of data transmission.

33. **Claim 16** is rejected under 35 U.S.C. 103(a) as being unpatentable over Nadgauda, US 6,011,800 in view of Tateson, US 6,539,228, Sawyer, US 5,634,195 and Oprea, US 2004/0192218 and further in view of Benveniste, US 5,787,352.

34. **For claim 16**. Nadgauda, Tateson, Sawyer, and Oprea disclose all the limitations of claim 15, however Nadgauda, Tateson, Sawyer, and Oprea fail to teach: allowing a user, who needs a high transmit power in each cell, to use a traffic channel of the resource subspace with the higher transmit power.

Benveniste from the same or similar fields of endeavor teaches: allowing a user, who needs a high transmit power in each cell, to use a traffic channel of the resource subspace with the higher transmit power. (Benveniste, column 16, lines 3-11, high power user is allowed to use idle, low traffic channel with allowed high power).

Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teachings of Benveniste into Nadgauda, Tateson, Sawyer, and Oprea, since Sawyer suggests a technique for allocating power to channels, and Benveniste suggests the beneficial use of allowing high power users to use low traffic channel to reduce the probability of adjacent-channel interference between neighbor cells (Benveniste, column 16, lines 10-11) in the analogous art of data transmission.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KHOA HUYNH whose telephone number is (571) 270-7185. The examiner can normally be reached on Monday - Friday: 9:00 AM - 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, SEEMA RAO can be reached on (571) 272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kevin C. Harper/
Primary Examiner, Art Unit 2462

/K. H./
Examiner, Art Unit 2462